

REMARKS

In the Office Action the Examiner noted that claims 1-4 and 7-26 are pending in the application, and the Examiner rejected all claims. The Examiner's rejections are traversed below, and reconsideration of all rejected and objected to claims is respectfully requested.

Claim Rejections Under 35 USC §103

In item 2 on pages 2-3 of the Office Action the Examiner rejected claims 1, 2, 4, 7, 9, 11-13 and 16-25 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,157,240, issued to Chow et al. (hereinafter referred to as "Chow") in view of U.S. Patent No. 5,221,829, issued to Yahav et al. (hereinafter referred to as "Yahav"). The Applicants respectfully traverse the rejections by the Examiner.

Claim 1 of the present application recites:

A heating crucible for an organic thin film forming apparatus, the heating crucible comprising:
a main body in which to contain an organic substance;
a cover provided on the main body, the cover formed of an insulating material and having a nozzle through which a gaseous organic substance comes out from the main body;
a cover heater formed as a thin film type on the top surface of the cover;
a heat resistant layer formed on a surface of the cover heater;
a reflective layer between the cover heater and the heat resistant layer; and
a body heater heating the main body.

Therefore the heating crucible recited in claim 1 comprises "a heat resistant layer formed on a surface of the cover heater," and "a reflective layer between the cover heater and the heat resistant layer." The Applicants respectfully submit that at least these recited features are not disclosed in either of the cited references.

The Examiner states that Chow discloses, among other features, "a heat-resistance layer on the cover heater." However, the Applicants respectfully submit that no such heat-resistant layer is disclosed in Chow. Figures 2 and 3 of Chow show a heating crucible 10 having a cover 11 with an inner heating element 22 and an outer heating element 24. A protective layer 25 is provided over the outer heating element 24. The Applicants assume that the Examiner is equating the protective layer 25 with the heat resistant layer claimed in claim 1 of the present application, as the Examiner has not specifically identified the "heat-resistance layer" which is

cited in the Examiner's description of Chow. However, nothing in the disclosure of Chow indicates that the protective layer 25 is a heat resistant layer. The disclosure of Chow states that the protective layer 25 is "deposited using a well known chemical vapor deposition process to a thickness of 1.0 to a few mils. Protective layer 25 prevents outer conductor 24 therebeneath from absorbing gaseous impurities when out in the open which could later outgas at the crucible operating temperatures" (Column 4, Lines 62-64). Therefore, rather than providing a heat resistant layer as recited in claim 1 of the present application, Chow discloses a thin protective layer 25 which merely protects the outer heating element 24 from the conditions and elements of the vacuum in which the crucible 10 is placed. "Further, the pyrolytic graphite in outer heater 24, in the absence of protective layer 25, may react with residual molecules occurring thereabout even after a hard vacuum has been pulled therein" (Column 4, Line 62 through Column 5, Line 3). Thus, the protective layer 25 of Chow is provided to protect the outer heating element 24, and does nothing to resist the heat produced by the outer heating element 24 so that the heat may be prevented from entering the vacuum in which a chemical vapor deposition is taking place. Further, this deficiency of Chow is not cured by Yahav.

The Examiner acknowledges that "Chow does not show a heat reflective layer between the heater and the heat-resistant layer," but goes on to say that the heat reflective layer is disclosed in Yahav. The Applicants respectfully submit that neither Chow nor Yahav discloses "a reflective layer between the cover heater and the heat resistant layer." The Examiner states:

Yahav shows a heating device having a heating element (31) deposited to an insulating substrate (12), the heating element further provided with a heat-resistant layer (34) on the heating element with a layer (30) made of a metal would reflect the heat generated by the heating element toward the intended heating surface.

However, the Applicants must respectfully submit that the Examiner has not correctly identified the elements discussed. Yahav discloses, in Figures 3A-3C, a domestic cooking apparatus having a foil heating element 30 located under a cooking surface layer 12, with a heat conductive insulative layer 32 in between, and an insulation layer 34 located under the foil heating element 30. Figure 3C shows an additional layer 31 "formed of a metal having high thermal conductivity....provided underlying layer 12" (Column 4, Lines 7-8). Therefore, contrary to the characterizations of the elements of Yahav by the Examiner, layer 31 is not a heating element, and the foil heating element 30 is not a layer which "would reflect the heat generated by the heating element toward the intended hating surface." Therefore, there is no layer

whatsoever between the foil heating element 30 and the insulation layer 34 which the Examiner has characterized as the heat-resistant layer. Yahav does disclose a metal heat reflector 40, but this element is provided at the bottom of the housing 10 of the domestic cooking apparatus, and is quite obviously not "a reflective layer between the cover heater and the heat resistant layer."

Therefore, Chow and Yahav do not disclose, either alone or in combination, "a heat resistant layer formed on a surface of the cover heater," or "a reflective layer between the cover heater and the heat resistant layer." For a proper §103 rejection, the cited references must combine to teach all of the features of the application at issue. Thus, the Applicants respectfully submit that claim 1 of the present application patentably distinguishes over the cited references, and further respectfully request the withdrawal of the §103 rejection.

Further, even if the cited references in combination did recite all of the features of claim 1 of the present application, and the Applicants respectfully submit that they do not, there is no motivation to combine the disclosures of Chow and Yahav. Chow discloses a crucible heater for use in chemical vapor deposition, while Yahav discloses a domestic cooking apparatus including a layer of ceramic material having high temperature thermal shock resistance. Therefore, the Applicants respectfully submit that no person skilled in the art would reasonably look to the field of domestic cooking apparatuses to combine technology with a heating crucible for chemical vapor deposition to form thin film electronic and magnetic devices. As noted in MPEP 2141.01(a), in order to establish an obviousness rejection, the prior art relied upon must be from a "field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)." Further, evidence of separate classifications is evidence of the non-analogous nature of the technology. Since the domestic cooking apparatus is from a separate field of endeavor, and is not reasonably pertinent to the particular problems set forth in the deposition heater of Chow, it is respectfully requested that the Examiner reconsider and withdraw the combination.

Claims 2, 4, 7, 9, 11-13 and 16-25 depend from claim 1 and include all of the features of that claim plus additional features which are not taught or suggested by Chow. As previously discussed, Chow and Yahav do not disclose, either alone or in combination, all of the features of claim 1. For a proper §103 rejection, the cited references must combine to teach all of the features of the application at issue. Therefore, it is respectfully submitted that claims 2, 4, 7, 9, 11-13 and 16-25 also patentably distinguish over the cited references, and withdrawal of the

§103 rejection is requested.

In item 3 on page 3 of the Office Action the Examiner rejected claims 3, 14 and 19 under 35 U.S.C. §103(a) as being unpatentable over Chow in view of Yahav as applied to claims 1, 2, 4, 7, 9, 11-13 and 16-25 above, and further in view of U.S. Patent No. 6,242,719, issued to Kano et al. (hereinafter referred to as "Kano").

Claims 3, 14, and 19 depend from claim 1 and include all of the features of that claim plus additional features which are not taught or suggested by Chow. As previously discussed, Chow and Yahav do not disclose, either alone or in combination, all of the features of claim 1. Further, the deficiencies of Chow and Yahav are not cured by the disclosure of Kano. Therefore, it is respectfully submitted that claims 3, 14, and 19 also patentably distinguish over the cited references, and withdrawal of the §103 rejection is requested.

In item 4 on pages 3-4 of the Office Action the Examiner rejected claims 8, 15 and 26 under 35 U.S.C. §103(a) as being unpatentable over Chow in view of Yahav as applied to claims 1, 2, 4, 7, 9, 11-13 and 16-25 above, and further in view of U.S. Patent No. 6,162,300, issued to Bichrt et al. (hereinafter referred to as "Bichrt").

Claims 8, 15, and 26 depend from claim 1 and include all of the features of that claim plus additional features which are not taught or suggested by Chow. As previously discussed, Chow and Yahav do not disclose, either alone or in combination, all of the features of claim 1. Further, the deficiencies of Chow and Yahav are not cured by the disclosure of Bichrt. Therefore, it is respectfully submitted that claims 8, 15, and 26 also patentably distinguish over the cited references, and withdrawal of the §103 rejection is requested.

In item 5 on page 4 of the Office Action the Examiner rejected claim 10 under 35 U.S.C. §103(a) as being unpatentable over Chow in view of Yahav as applied to claims 1, 2, 4, 7, 9, 11-13 and 16-25 above, and further in view of U.S. Patent No. 5,233,166, issued to Maeda et al. (hereinafter referred to as "Maeda") or U.S. Patent No. 4,804,823, issued to Okuda et al. (hereinafter referred to as "Okuda").

Claim 10 depends from claim 1 and includes all of the features of that claim plus additional features which are not taught or suggested by Chow. As previously discussed, Chow and Yahav do not disclose, either alone or in combination, all of the features of claim 1. Further, the deficiencies of Chow and Yahav are not cured by the disclosures of Maeda or Okuda. Therefore, it is respectfully submitted that claim 10 also patentably distinguishes over the cited

references, and withdrawal of the §103 rejection is requested.

Summary

There being no further outstanding objections or rejections, it is respectfully submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN, MCEWEN & BUI, LLP

Date:

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By:

Thomas L. Jones
Thomas L. Jones
Registration No. 53,908

1400 Eye St., NW
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510